

Available online at www.sciencedirect.com

Procedia Social and Behavioral Sciences 2 (2010) 3246–3251

Procedia
Social and Behavioral Sciences

WCES-2010

A comparative analysis of pre-service teachers' perceptions of self efficacy and emotional intelligence

Aysun Gürol^a *, Mümine Güher Özercan^a, Hülya Yalçın^a^a Faculty of Education, Fırat University, Elazığ, 23300, Türkiye

Received October 27, 2009; revised December 3, 2009; accepted January 14, 2010

Abstract

A consideration of emotion has been traditionally neglected in the context of teaching and teacher education. This has begun to change with the recent research on emotional intelligence (EI). It is highly likely that emotionally intelligent individuals could provide help in how to manage emotions to less emotionally intelligent individuals. This study was reported in this paper was conducted to examine the relationship between pre-service teachers' emotional intelligence (IE) and their self-efficacy. In addition, pre-service teacher differences on EI and self-efficacy beliefs were also examined with in terms of gender. To this end, 248 pre-service teachers were selected from education faculty in Fırat University. The participants were asked to complete the "Teachers' Sense of Efficacy Scale (Tschannen-Moran and Woolfolk Hoy, 2001)" and the "Emotional Intelligence Questionnaire (Schutte et al., 1998)". The results obtained through using Pearson Product-Moment Correlation showed that there was a positive significant correlation between perceived EI and self-efficacy ($r = 0.5$). This study provided no support for gender differences in EI and self-efficacy.

© 2010 Elsevier Ltd. Open access under [CC BY-NC-ND license](http://creativecommons.org/licenses/by-nc-nd/3.0/).*Keywords:* Pre-service teacher ; self-efficacy; teachers' self-efficacy; emotion; emotional intelligence.

1. Introduction

1.1. Pre-service teachers' emotional intelligence

EI has its root in the concept of "social intelligence" that was first identified by Thorndike (1920). Thorndike (1920) (cited in Wong and Law, 2002, p. 245) defined social intelligence as "the ability to understand and manage men and women, boys and girls – to act wisely in human relations". Emotional intelligence was originally conceptualized by Salovey and Mayer (1990), however emotional intelligence became popular outside academia by Daniel Goleman. Emotional intelligence became a well-known phrase in popular media circles (Matthews et al., 2002). Subsequently, emotional intelligence was adopted by big businesses adopting emotional intelligence as a leadership mantra. Since 1995, Goleman published *Working with Emotional Intelligence* (1998) and *Primal Leadership and Social Intelligence* (2006).

* Aysun Gürol. Tel.: 90 424 2120835; fax: 90 424 236 50 64

E-mail address: aguro@firat.edu.tr

EI theory has evolved from definitions of intelligence. Historically, understanding the nature of intelligence and emotion has been difficult. Definitions of intelligence vary and include behaviours associated with information processing, experiential learning, environmental adaptation, thought and reasoning patterns (Matthews et al., 2002). Emotions are complex reaction patterns involving behavioural and physiological elements to personally significant events (Barrett and Salovey, 2002; Nussbaum, 2002). Intelligence and emotions have been investigated as components of mental operations and as physiological and behavioural response patterns within environments. However, investigations into the nature of intelligence and emotions have not resulted in a clear conceptualization of either concept (Barrett and Salovey, 2002).

Although many theories have been proposed about emotional intelligence, three theories have clearly influenced the academic circles. Reuven Bar-On, Daniel Goleman, and the team of John Mayer and Peter Salovey have significantly contributed to emotional intelligence knowledge and research. Each of these theorists' conceptualization of emotional intelligence has guided their research direction in relation to EI. EI has been defined as an ability (Mayer and Salovey, 1997), a set of traits and abilities (Bar-On, 2005) or a combination of skills and personal competencies (Goleman, 1998).

Bar-On (2005) conceptualizes emotional intelligence as a set of personality traits and abilities that predict emotional and social adaptation within environments. Bar-On (1997) EI is defined as “an array of noncognitive capabilities, competencies, and skills that influence one’s ability to succeed in coping with environmental demands and pressures” (p. 14). Schutte and Malouff (1999) argued that Goleman’s (1995) view of the adaptive nature of EI is nicely understood by this notion that cognitive intelligence may help individuals gain admission to educational settings, but that EI will determine how successful they are within these settings. As Hawkey (2006) has suggested, teacher education needs to address emotion in education in more explicit ways than is currently the case. In summary, a consideration of emotion has been traditionally neglected in the context of teaching and teacher education. Recent research on EI has begun to address this gap. Teachers experiencing more positive emotions may generate more and better teaching ideas; they may also develop “broad-minded coping” skills (Frederickson, 2001, p. 223), which can help them solve more problems.

1.2. Pre-service teachers' self-efficacy

Educational researchers have attempted to measure pre-service teacher efficacy and pre-service teachers' self-efficacy beliefs. These attempts have been fraught with theoretical and measurement issues (Bandura, 1993; Deemer & Minke, 1999; Dellinger, 2005; Denzine et al., 2005; Guskey & Passaro, 1994; Henson, 2002; Pajares, 1992; Tschannen-Moran & Hoy, 2001; Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). Self-efficacy is grounded in the theoretical framework of social cognitive theory emphasizing the involvement and exercise of human agency that people can exercise some influence over what they do (Bandura, 2006). Bandura (2006) maintains that in this conception, people are self-organizing, proactive, self-regulating, and self-reflecting. From this perspective, self-efficacy affects one's goals and behaviours and is influenced by one's actions and conditions in the environment (Schunk 1989). Efficacy beliefs determine how environmental opportunities and impediments are perceived (Bandura, 2006) and affect choice of activities, how much effort is expended on an activity, and how long people will persevere when confronting obstacles (Pajares, 2002).

During the last decade the research literature also showed a growing interest in pre-service teacher self-efficacy (e.g., Soodak & Podell, 1996; Wheatley, 2005). However, a problem with research on teacher self-efficacy is that there is no consensus on how the construct should be conceptualized and how it should be measured. It has been conceptualized and measured differently by different researchers (Skaalvik & Skaalvik, 2007; Tschannen-Moran & Woolfolk Hoy, 2001). In addition to the increased research interest in teacher efficacy and its correlation with teaching/learning behaviours in the classroom (Milner & Woolfolk-Hoy, 2003), much attention has been directed to the efficacy beliefs of pre-service teachers. Recent research examined the influence of pedagogical methods courses and field experience courses throughout teacher education programs on pre-service teachers' thoughts and beliefs about their teaching practice (Clift & Brady, 2005).

Teacher self-efficacy refers to the teacher's belief of his or her abilities to bring about valued outcomes of engagement and learning among students including difficult and unmotivated students (see Bandura, 1977; Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). Specifically, teacher self-efficacy has been related to a variety of student outcomes that include achievement (Ashton & Webb, 1986; Ross, 1994), motivation (Midgley, Feldlaufer, & Eccles, 1989), and students' own sense of efficacy (Anderson, Greene, & Loewen, 1988), as well as to different teacher classroom behaviors affecting the teacher's effort in teaching, and his or her persistence and resilience in the

face of difficulties with students (Ashton & Webb, 1986; Gibson & Dembo, 1984; Meijer & Foster, 1988; Soodak & Podell, 1993).

2. Method

2.1. Participants

The participants of this study were 248 pre-service teachers (132 males, 116 females) teaching at Education Faculty in Firat University, Elazig (Turkey) in the 2008-2009 academic year. There are five sections of specialisation in the department: Turkish, Humanities, Mathematics, Science and Class Teaching. The total size of the group is 250. A total of 248 sets of questionnaires were distributed to pre-service teachers who indicated interest in participation. These pre-service teachers were requested to complete the questionnaires anonymously. 248 pre-service teachers returned questionnaires with a for analysis response rate of about 99%.

2.2. Instruments

Pre-service Teachers' Sense of Self-Efficacy Scale: Reviewing the existing measures on pre-service teacher's self-efficacy (such as, the Web Efficacy Scale developed by Ashton et al. (1982), including seven items; the teacher efficacy scale by Gibson and Dembo (1984), including 30 items on a 6 point Likert scale; and Bandura's teacher efficacy scale, 1997, comprising 30 items on a 9 point scale), the researchers decided to utilize the Teachers' Sense of Efficacy Scale designed by Tschannen-Moran and Woolfolk Hoy due to its comprehensiveness, integrity, and ease of administration. The Teachers' Sense of Efficacy Scale, also called Ohio State Teacher Efficacy Scale (OSTES), encompasses two versions: long form (including 24 items) and short form (including 12 items). In the current study the long form was applied which includes three subscales: (1) efficacy in student engagement (ESE), (2) efficacy in instructional strategies (EIS), and (3) efficacy in classroom management (ECM). Each subscale loads equally on eight items, and every item is measured on a 7 point scale anchored with the notations: "nothing, very little, some influence, quite a bit, a great deal." This scale seeks to capture the multi-faceted nature of pre-service teachers' efficacy beliefs in a concise manner without becoming too specific or too general. The total reliability and the reliability of each individual factor – reported by Tschannen-Moran and Woolfolk Hoy (2001). In this study, the total reliability of the questionnaire was calculated 0.88 by using Cronbach's alpha.

The Emotional Intelligence Scale (EIS): The Emotional Intelligence Scale (EIS) developed by Schutte and her colleagues based on Salovey and Mayer's (1990) model of EI was used in this study. This scale assesses EI based on self-report responses to 33 items tapping the evaluation and expression of emotion in oneself and others, the regulation of emotion in oneself and others, and the use of emotions in solving problems. Participants responded to the items by indicating their degree of agreement with each of the 33 statements using a five-point likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The original EIS had demonstrated high internal consistency (Cronbach's α ranging from 0.87 to 0.90), and good 2-week test-retest reliability ($r = 0.78$) (Schutte et al., 1998). In this study, the pre-service teachers' gender were also gathered with the Turkish version of this instrument. Before conducting the main study, the reliabilities of the Turkish versions of these questionnaires were obtained through a pilot study; that is, 35 randomly chosen pre-service teachers responded to the questionnaires. This pilot study showed good reliabilities ($\alpha = 0.75$) for the EIS.

2.3. Data collection and analysis

The study was carried out in Education Faculty, Firat University. The participants were asked to take the Pre-service Teachers' Sense of Efficacy Scale and the EI test. The data to be reliable, the researchers explained the purpose of completing the questionnaires and assured the participants that their data would be confidential; besides, the participants' questionnaires were coded numerically and the confidentiality and anonymity considerations were observed. To ensure the normality of the distribution, descriptive statistics was employed. To determine the role of pre-service teachers' EI in their self-efficacy, a Pearson product-moment correlation was applied to the data.

3. Results

3.1. Differences in EI and self-efficacy according to gender

To explore whether there were significant gender differences in pre-service teachers' EI and self-efficacy, an independent t-test analysis was conducted. The results (Table 1,2) revealed that there was no significant difference between male and female pre-service teachers concerning their EI and self-efficacy.

Table 1. Test analysis—EI and gender.

Groups	N	M	SD	t	P
Male	132	4.1	0.33	0.77	NSa
Female	116	3.9	0.43		

^a Non-significant.

Table24. t-Test analysis—self-efficacy and gender.

Groups	N	M	SD	t	P
Male	132	5.9	0.89	0.91	NSa
Female	116	5.7	0.71		

^a Non-significant.

3.2. The relationship between EI and self-efficacy

Table 3 summarizes the descriptive results of the two instruments – pre-service teachers' self-efficacy and EI – used in this study.

Table 3. Descriptive statistics of pre-service teachers' self-efficacy and their EI.

Pre-service Teachers;	N	Minimum	Maximum	Mean	Std. Deviation
Self-efficacy	248	2,79	7,00	5,4479	,81916
EI	248	1,00	5,00	3,9430	1,8256

To investigate the correlation between pre-service teachers' EI and their self-efficacy, a Pearson product-moment correlation was applied. The results (Table 4) indicate that there is a positive significant correlation ($r = 0.5$) between EI and self-efficacy at the level of 0.01.

Table 4. The results of correlation between pre-service teachers' self-efficacy and EI.

	Emotional intelligence	Self-efficacy
Emotional intelligence		
Pearson correlation	1	0.743*
Sig. (2-tailed)	–	0.000
N	248	248
Self-efficacy		
Pearson correlation	0.743*	1
Sig. (2-tailed)	0.000	–
N	248	248

* Shows the existence of the significant relationship at the level of 0.01 (2-tailed).

4. Discussion

The present study intends to investigate whether there is relationship between pre-service teachers' EI and their sense of efficacy beliefs in Education Faculty in Firat University. The results revealed that there is a significant positive relationship between EI and self-efficacy. These findings are in line with those reported by Chan (2004) and Martin et al. (2004). In recent decades, there has been research which demonstrates positive educational outcomes of teachers' sense of efficacy (e.g., Tschannen-Moran and Woolfolk Hoy, 2001). Thus, it is beneficial to teacher educators and pre-service teachers that EI and self-efficacy are positively correlated, since each of them has the capacity to be developed, and each has a positive influence on the other.

In this study, a breakdown of the results for EI by gender revealed no significant differences. These findings were in line with those reported by Chan (2004) and Hopkins and Bilimoria (2008), while in conflict with the findings of Harrod and Scheer (2005) indicating that there were significant differences between females and males, with females reporting higher EI levels. Besides, these finding confirmed the results reported by Gencer and Cakiroglu (2007).

This study had some limitations, including the small sample size and the impossibility of generalizing findings which were based on a specific sample of pre-service teachers. It is therefore not applicable to wider population of pre-service teachers.

Further studies should include qualitative tools such as interviews, think-aloud protocols, and diaries which might help provide further insight into the EI and self-efficacy of specific groups of pre-service teachers.

5. Conclusions

Findings from this study might help researchers and teacher educators focus more on enhancing pre-service teachers sense of efficacy, and work towards changing the way teachers are prepared and supported in their early years of teaching.

Moreover, findings of this study showed that there was no significant difference in the levels of EI and self-efficacy among pre-service teachers in terms of their gender. It is, therefore, suggested that both male and female pre-service teachers can be successful in teaching. It is highly likely that emotionally intelligent individuals could provide help in how to manage emotions to less emotionally intelligent individuals.

In the light of the research results, there was a positive relationship between EI and self-efficacy. This finding gives us the first and foremost implications that enhancement and development of each of these constructs can lead to the enhancement and development of the other. Therefore, there is a need to consider them as important factors during teacher education programmes both in pre-service and in-service teacher preparation.

References

- Anderson, R. N., Greene, M. L., & Loewen, P. S. (1988). Relationships among teachers' and students' thinking skills, sense of efficacy, and student achievement. *The Alberta Journal of Educational Research*, 34, 148–165.
- Ashton, P. T., & Webb, R. B. (1986). *Making a difference: Teachers' sense of efficacy and student achievement*. New York: Longman.
- Ashton, P.T., et al., 1982. Measurement problems in the study of teachers' sense of efficacy. In: Paper Presented at the Annual Meeting of the American Educational Research Association, New York.
- Bandura, A., 1997. *Self-efficacy: The Exercise of Control*. W.H. Freeman and Company, New York
- Bandura, A. (2006). Adolescent development from an agentic perspective. In F. Pajares, & T. Urdan (Eds.), *Self-efficacy beliefs of adolescents* (pp. 1e43). Greenwich, Connecticut: Information Age Publishing.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28, 117–148.
- Bar-On, R., 1997. *The Emotional Quotient Inventory (EQ-I): Technical Manual*. Multi-Health Systems, Toronto.
- Bar-On, R., 2005. The Bar-On model of emotional-social intelligence (ESI). *Psicothema Special issue on emotional intelligence* 17, 1–28.
- Barrett, L.F., Salovey, P., 2002. Introduction. In: Barrett, L.F., Salovey, P. (Eds.), *The Wisdom in Feeling*. The Guilford Press, New York, pp. 1–8.
- Chan, D.W., 2004. Perceived emotional intelligence and self-efficacy among Chinese secondary school teachers in Hong Kong. *Personality and Individual Differences* 36, 1781–1795.
- Clift, R. T., & Brady, P. (2005). Research on methods courses and field experiences. In M. Cochran-Smith, & K. M. Zeichner (Eds.), *Studying teacher education: The report of the AERA panel on research and teacher education* (pp. 309–424). Mahwah, NJ: Lawrence Erlbaum Associates Publishers
- Deemer, S. A., & Minke, K. M. (1999). An investigation of the factor structure of the Teacher Efficacy Scale. *The Journal of Educational Research*, 93(1), 3–10.
- Dellinger, A. B. (2005). Validity and the review of literature. *Research in the Schools*, 12(2), 41–54.

- Denzine, G. M., Cooney, J. B., & McKenzie, R. (2005). Confirmatory factor analysis of the Teacher Efficacy Scale for prospective teachers. *British Journal of Educational Psychology*, 75, 689–708.
- Frederickson, B.L., 2001. The role of positive emotion in positive psychology: the broadening-and-build theory of positive emotion. *American Psychology* 56, 218–226.
- Gencer, A.S., Cakiroglu, J., 2007. Turkish preservice science teachers' efficacy beliefs regarding science teaching and their beliefs about classroom management. *Teaching and Teacher Education* 23 (5), 664–675.
- Gibson, A., Dembo, M., 1984. Teacher efficacy: a construct validation. *Journal of Educational Psychology* 76 (4), 569–582.
- Goleman, D., 1995. *Emotional Intelligence*. Bantam, New York.
- Goleman, D., 1998. *Working with Emotional Intelligence*. Bantam, New York.
- Harrod, N.R., Scheer, S., 2005. An exploration of adolescent emotional intelligence in relation to demographic characteristics. *Adolescence* 40, 503–512.
- Guskey, T. R., & Passaro, P. D. (1994). Teacher efficacy: a study of construct dimensions. *American Educational Research Journal*, 4, 63–69.
- Hawkey, K., 2006. Emotional intelligence and mentoring in pre-service teacher education: a literature review. *Mentoring and Tutoring* 14 (2), 137–147.
- Henson, R. (2002). From adolescent angst to adulthood: Substantive implications and measurement dilemmas in the development of teacher efficacy research. *Educational Psychologist*, 37, 137–150.
- Hopkins, M.M., Bilimoria, D., 2008. Social and emotional competencies predicting success for male and female executives. *Journal of Management Development* 27 (1), 13–35.
- Martin, W.E., Easton, C., Wilson, S., Takemoto, M., Sullivan, S., 2004. Salience of emotional intelligence as core characteristics of being a counselor. *Counselor Education & Supervision* 44 (1), 17–30.
- Matthews, G., Zeidner, M., Roberts, R.D., 2002. *Emotional Intelligence: Science & Myth*. The MIT Press, Cambridge, MA.
- Mayer, J.D., Salovey, P., 1997. What is emotional intelligence? In: Salovey, P., Sluyter, D.J. (Eds.), *What is Emotional Intelligence?* Basic Books, New York, p. 4.
- Meijer, C. J. W., & Foster, S. F. (1988). The effect of teacher self-efficacy on referral change. *Journal of Special Education*, 22, 378e385.
- Midgley, C., Feldlaufer, H., & Eccles, J. S. (1989). Change in teacher efficacy and student self- and task-related beliefs in mathematics during the transition to junior high school. *Journal of Educational Psychology*, 81, 247–258.
- Milner, H. R., & Woolfolk-Hoy, A. (2003). Teacher self-efficacy and retaining talented teachers: a case study of an African American teacher. *Teaching and Teacher Education*, 19, 263–276.
- Nussbaum, M.D., 2002. Introduction. In: Nussbaum, M.G. (Ed.), *Upheavals of Thought*. Cambridge University Press, Cambridge, UK, pp. 1–16.
- Pajares, M.F., 1992. Teachers' beliefs and educational research: clearing up a messy construct. *Review of Educational Research* 62 (3), 307–332.
- Pajares, M.F., 2002. Self-efficacy Beliefs in Academic Contexts: An Outline. <<http://des.emory.edu/mfp/efftalk.html>> (retrieved September 2008).
- Ross, J.A., 1994. Beliefs that make a difference: the origins and impacts of teacher efficacy. In: Paper Presented at the Annual Meeting of the Canadian Association for Curriculum Studies.
- Salovey, P., Mayer, J.D., 1990. Emotional intelligence. *Imagination, Cognition and Personality* 9, 185–211.
- Schunk, D. H. (1989). Self-efficacy and cognitive skill learning. In C. Ames & R. Ames (Eds.), *Research on motivation in education: Vol. 3. Goals and cognitions*, pp. 13–44. San Diego: Academic.
- Schutte, N.S. et al., 1998. Development and validation of a measure of emotional intelligence. *Personality and Individual Differences* 25, 167–177.
- Schutte, N.S., Malouff, J.M., 1999. *Measuring Emotional Intelligence and Related Construct*. Edwin Mellen Press, Lewiston, NY.
- Skaalvik, E. M., & Skaalvik, S. (2007). Dimensions of teacher self-efficacy and relations with strain factors, perceived collective teacher efficacy, and teacher burnout. *Journal of Educational Psychology*, 99, 611e625.
- Soodak, L. C., & Podell, D. M. (1993). Teacher efficacy: Toward the understanding of multi-faceted construct. *Teaching and Teacher Education*, 12, 401–411.
- Soodak, L. C., & Podell, D. M. (1996). Teacher efficacy: toward the understanding of a multi-faceted construct. *Teaching and Teacher Education*, 12, 401e411.
- Thorndike, R.K., 1920. Intelligence and its uses. *Harper's Magazine* 140, 227–335.
- Tschannen-Moran, M., Woolfolk Hoy, A., 2001. Teacher efficacy: capturing an elusive construct. *Teaching and Teacher Education* 17, 783–805.
- Tschannen-Moran, M., Woolfolk Hoy, A., Hoy, W.K., 1998. Teacher efficacy: its meaning and measure. *Review of Educational Research* 68 (2), 202–248.
- Wheatley, K. F. (2005). The case for reconceptualizing teacher efficacy research. *Teaching and Teacher Education*, 21, 747–766.
- Wong, C.S., Law, K.S., 2002. The effects of leader and follower emotional intelligence on performance and attitude: an exploratory study. *The Leadership Quarterly* 13, 243–274.